



Imagine

Exploring **Science**
and **Engineering** with the INEEL

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY

The wireless video camera is designed to help emergency workers do their jobs safer and easier.



PD03-0057-01

Seeing is Believing

INEEL engineer designs video camera to help emergency workers

Kevin Young designed a very special video camera. Young's camera helps firefighters or emergency workers do their jobs safer and easier.

Young works at the Idaho National Engineering and Environmental Laboratory. With such a long name, most people call it

See **CAMERA**, page 2



Key Definitions

- a National Engineers Week** – It's a week set aside each year for engineers to talk to people, especially students, about who they are and what they do in their jobs. This year, the week runs from February 16-22. You can find out more about what's going on during the week and about engineering at <http://www.eweek.org>.
- b Engineers** – They're people who solve problems and **innovate**. In other words, they come up with ways to make new things and make old things better. The difference between a scientist and engineer has been described by Theodore Von Karman, an aerospace engineer, as, "Scientists discover the world that exists; engineers create the world that never was."
- c INEEL** – One of only nine special places in the country where scientists and engineers work together to find new and better ways to protect our nation and environment, develop new forms of energy and solve basic questions about science and our world.

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<http://imagine.inel.gov>



PN02-0787-01-3A

The camera Kevin designed is waterproof, easy to hold, and sturdy.

CAMERA, *continued from page 1*

the INEEL. The INEEL covers 890 square miles – almost as much land as the whole state of Rhode Island – and is located between Arco and Atomic City in eastern Idaho. The INEEL also has laboratories in Idaho Falls.

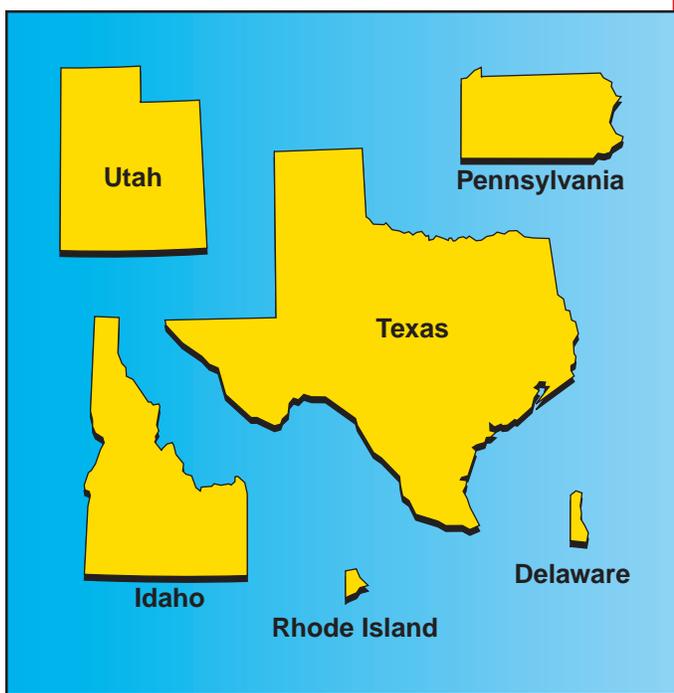
A **laboratory** is a place where women and men conduct science experiments. It is also a place where engineers design and build things to help people do their jobs better. Young's camera is a good example of engineering.

Young's video camera is different than the cameras you may have at home. This camera looks like a big flashlight. It is easy to hold. It can get dunked into bleach for cleaning. But what's most important is that it can send pictures miles away without wires. It does this using radio waves.



Microscopic Fact

There are many different kinds of engineers – mechanical, electrical, chemical, civil, industrial, metallurgical and others.



List the states in size, from SMALLEST to LARGEST.

Do you know the largest state in the United States? (Hint – It is not listed here and has 581,951 square miles of land!)

- a. Idaho 82,747 square miles _____
- b. Pennsylvania 44,817 square miles _____
- c. Rhode Island 1,045 square miles _____
- d. Texas 261,797 square miles _____
- e. Utah 82,144 square miles _____
- f. Delaware 1,954 square miles _____

Largest State: _____

Remote-controlled cars and trucks also use radio waves. These invisible signals tell the car or truck to go, stop or turn. Instead of sending commands to a toy car, Young's camera sends pictures to a computer.

Firefighters, police, or search-and-rescue teams, who all respond to emergencies (sudden events that require immediate actions), can carry the video camera wherever they go. They can send back pictures so that people who



Microscopic Fact

It takes electrical, industrial, mechanical and civil engineers to design roller coasters.

Kevin Young shows kids how to set up and fire a model rocket. "Rocketry is one of the best ways to learn about physics."

are far away from the scene can see what is happening, at the exact time that it is happening.

Engineers, like Kevin Young, think up great ideas, then make them real.

Kevin travels to regional grade schools to talk with students about science and engineering.



PN00-0145-01-30A



PN00-0145-02-18A

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STORY QUIZ!

Seeing is Believing (circle your answer)

- i. The story says Kevin Young is
 - a) an astronaut
 - b) a fireman
 - c) an engineer
 - d) a photographer
- ii. The INEEL camera is different because
 - a) it is used by astronauts in space
 - b) it runs on top of remote-controlled toy cars
 - c) it must be kept away from all liquids, especially bleach
 - d) it sends its pictures a long way over radio waves
- iii. From the story, you've learned the INEEL is
 - a) in eastern Iowa
 - b) a place where scientists and engineers design and build things to help people do their jobs better and more safely
 - c) a national elk experiment laboratory
 - d) planning to move to Rhode Island



MATCHING!

Find these occupations, or jobs, in the story and match to definitions listed.

- | | | |
|-----------------------------|-----|--|
| a. Engineer | ___ | Someone who finds lost people |
| b. Scientist | ___ | Someone who makes new things and makes old things better |
| c. Firefighter | ___ | Someone who conducts experiments |
| d. Search-and-Rescue Worker | ___ | Someone who helps put out fires |

VOCABULARY!

Find each of these words in the story and facts. What do they mean?

- a. Emergency _____
- b. Innovate _____
- c. Laboratory _____

Microscopic Fact



Idaho scientists and engineers get more patents on their ideas per capita (relative number of people) than their peers in any other state.



IMAGINE is a science and engineering quarterly for school kids published by the Idaho National Engineering and Environmental Laboratory. Imagine encourages students to see the world of possibilities in science and engineering by exploring exciting ideas, technologies and the people who create them. The INEEL is operated for the DOE by Bechtel BWXT Idaho, LLC. Requests for additional copies, story ideas or questions should be directed to the editor at (208) 526-1058, kzc@inel.gov. This is printed on recycled paper.

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